SEASPACE
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Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

**RE: Public Notice and ET Docket No. 10-123**

June 15, 2010

Dear Madame Secretary:

SeaSpace Corporation, a California Corporation and small business consisting of 32 employees, was founded in 1982 out of a Small Business Innovations Research grant from the U.S. Government as a provider of satellite direct reception ground stations. We currently have 470 customers worldwide, but today we are writing you about the users of the 1675-1710 MHz band in the United States, which includes SeaSpace Corporation and approximately 80 of our customers that have at least one land-based ground station in the U.S., and the multiple U.S. military and research shipboard systems involved in littoral operations (attachments A, B, and C). Reallocating the 1675-1710 MHz band to broadband users will not only compromise the viability of our corporation, but will risk harm to public safety and research activities conducted by our customers.

The 1675-1710 MHz band is used by SeaSpace Corporation and our customers to receive meteorological, oceanographic, and land-use data directly from the following satellites: NOAA-series (USA), GOES-series (USA), MetOp (EU), and FY-1D (China). Depending on a customer's geographic location and objective, a single ground station maybe used continuously 24 hours a day (For calculation, see Appendix D).

In the 1675-1710 MHz band range, the following frequencies are used by SeaSpace direct reception ground stations:

1685.7 ± 3 MHz
1691.0 ± 256 KHz
1698.0 ± 1.5 MHz
1702.5 ± 1.5 MHz
1707.0 ± 1.5 MHz

Although the frequency range that L-Band direct reception uses can be quantified exactly above, a band sharing agreement in the 1675-1710 MHz range not be effective because broadband wireless equipment has poor filtering, and will therefore increase noise harmonics that will spill over into the satellite data range that is needed, rendering the data noisy and useless to us and our users.

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SeaSpace Corporation collects revenues from two main sources. The first is from sales of direct reception ground stations which can cost from $100,000 to $500,000 and the second is from yearly software support fees, which can range from $8500 to $18,500 a year. Both price ranges are dependent on how many satellites the customer desires to receive. Other revenue streams that would be compromised are SeaSpace's data operations, in which SeaSpace Corporation collects data at our headquarters in Poway, California, and sells the processed data to other customers who do not have a direct reception ground station.

Due to the public's daily use of software such as Google Earth, and websites provided by agencies such as NASA and NOAA, there is a perception that all Earth Science satellite data can be received online. This is unfortunately not true, and a dangerous misconception. Data received via the internet has the following drawbacks:

1. It is not "real-time". Real-time data is defined as data that is received as close to simultaneously as is possible to when the satellite images an area. A Direct Broadcast satellite transmits the "picture" it sees immediately after it sees it. Data received from NOAA and NASA via the internet may not be available for hours, sometimes days, after it is received. This makes it useless for operational applications.
2. All data products may not be available. Each satellite takes multiple bands of data. It is then processed into different resolutions and end products using scientific algorithms. Data available via the Internet is usually already processed to certain end-points, which may or may not fit the user's needs, and currently NOAA does not disseminate all possible products. By receiving the raw data directly from the satellites, users can customize products, even create their own products. This kind of decentralized approach is essential to the scientific process, and is continuously driving innovation in the field.
3. Internet data transmission required huge amounts of bandwidth, not only by the user, but by the organization serving the data. We cannot speak with authority on NOAA's ability to provide thousands of large data sets daily to hundreds of users, but we do not think it currently exists, and would require a huge infusion of capital investment for upgraded IT infrastructure.
4. Internet data is not dependable during times of crisis, when operational agencies (research, government, and military) need it the most. A direct reception ground station can provide continuous data coverage in the absence of internet connectivity and grid power. In an emergency such as fire, flood, earthquake, or war, a direct reception ground station is essential, which is why agencies with operational missions across the globe continue to purchase such stations.

SeaSpace Corporation's U.S. based customers with ground stations primarily include government agencies, military, universities and companies involved in defense or weather services. In the following paragraphs, we would like to highlight just a few of our customers and how they are using their ground stations TODAY.

**Louisiana State University (LSU):** Today the Earth Scan Lab at LSU is using their SeaSpace ground station to track the oil spill in the Gulf of Mexico and support emergency responders.

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**Naval Research Lab Monterey (NRL):** Today NRL is using their SeaSpace ground station to provide weather forecasts for the U.S. Navy across the entire Western Hemisphere. From their location in Mississippi, they can receive GOES-11, GOES-12, and GOES-13 which transmit weather data from the Pacific, Continental U.S., Atlantic, and South America.

**Navy Joint Typhoon Warning Center (JTWC):** Today JTWC is using a SeaSpace ground station to monitor the Pacific Ocean for storms capable of becoming a hurricane and alerting Navy ships in the area.

**University of Wisconsin, Madison (UWI):** Today UWI is using a SeaSpace ground station to receive satellite data and convert it into simulated next generation satellite system data in order to create the next generation of data algorithms for NOAA and NASA.

**USS John C. Stennis:** Today the USS John C. Stennis is receiving satellite data directly to their ship to forecast weather for the entire John C. Stennis Carrier Strike Group.

**U.S. Forrest Service (USFS):** Today the USFS uses their SeaSpace ground station to receive data and remotely detect forest fires. The fire locations are then put on their website and available to the public.

**Weather Services International (WSI):** Today WSI, a Weather Channel Company, uses a SeaSpace ground Station to receive weather data and disseminates it to media, aviation, energy trading and utility industry customers around the United States.

**U.S. Coast Guard (USCG):** Today the USCG is receiving weather data for weather, ocean conditions, and ice operations.

The above are just a few example of how systems from SeaSpace Corporation are used, but they are good examples of how important the 1675-1710 MHz frequency band is to our business. If the frequency is transferred to the broadband community, irreparable damage will be done to the U.S. Direct Reception community, and our company will likely lose all of our U.S. customers and possibly be forced to move operations overseas, if we can continue operations at all.

Respectfully,
Hyong Ossi
President

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ATTACHMENT A: SeaSpace Land-Based Ground Station Customers (Alphabetical by Name)

| Cutomer Name | Location | State |
|---|---|---|
| **Aerojet Corporation** | Azusa, California, USA | CA |
| **Aerospace Corporation** | El Segundo, California, USA | CA |
| **American Airlines Flight Academy** | DFW Airport, Texas, USA | TX |
| **Applied Physics Laboratory** | Seattle Washington, USA | WA |
| **Atmospheric & Environmental Research, Inc.** | Cambridge, Massachusetts, USA | MA |
| **Battelle, Pacific Northwest Laboratories** | Richland, Washington, USA | WA |
| **Boeing Aerospace** | Seal Beach, California, USA | CA |
| **Brookhaven National Laboratory** | Upton, New York, USA | NY |
| **City College of New York** | New York, NY, USA | NY |
| **Colorado State University** | Ft. Collins, Colorado, USA | CO |
| **Elizabeth City State University (ECSU)** | Elizabeth City, North Carolina, USA | NC |
| **Environmental Technologies Group, Inc.** | Baltimore, Maryland, USA | MD |
| **Fairweather Environmental Services** | Anchorage, Alaska, USA | AK |
| **Federal Express Corporation** | Memphis, Tennessee, USA | TN |
| **Florida Division of Emergency Management** | Tallahassee, Florida, USA | FL |
| **Georgia Institute of Technology, Hydrologic Research Center** | Atlanta, Georgia, USA | GA |
| **Inter-National Research Institute** | San Diego, California, USA | CA |
| **Jet Propulsion Laboratory** | Pasadena, California, USA | CA |
| **Jet Propulsion Laboratory, Ames Research Center** | Wrightwood, California, USA | CA |
| **Johns-Hopkins University, Applied Physics Laboratory** | Laurel, Maryland, USA | MD |
| **Joint Typhoon Warning Center (USN and USAF)** | Pearl Harbor, Hawaii, USA | HI |
| **Louisiana State University, Earth Scan Lab** | Baton Rouge, Louisiana, USA | LA |
| **Michigan Technical University** | Houghton, Michigan, USA | MI |
| **NASA/Ames Research Center** | Moffett Field, California, USA | CA |
| **NASA/Goddard Space Flight Center** | Greenbelt, Maryland, USA | MD |
| **NASA/Langley Research Center** | Hampton, Virginia, USA | VA |

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| | | |
|---|---|---|
| **National Center for Atmospheric Research (NCAR)** | Boulder, Colorado, USA | CO |
| **National Naval Ice Center** | Washington, D.C., USA | DC |
| **National Oceanic and Atmospheric Administration (NOAA)** | CoastWatch Caribbean Node, FL USA | FL |
| **National Oceanic and Atmospheric Administration (NOAA), Forecast Systems Laboratory** | Boulder, Colorado, USA | CO |
| **Naval Research Lab, Stennis Space Center** | Bay Saint Louis, MS USA | MS |
| **Northrop Grumman** | Bellevue, NE, USA | NE |
| **Northrop Grumman Electronics Systems** | Azusa, CA, USA | CA |
| **Oregon State University, College of Oceanic & Atmospheric Sciences** | Corvallis, Oregon, USA | OR |
| **Purdue University** | Lafayette, IN, USA | IN |
| **Radian International** | Dayton, Ohio, USA | OH |
| **Rutgers University** | New Brunswick, NJ, USA | NJ |
| **Salt River Project** | Phoenix, Arizona, USA | AZ |
| **San Francisco State University, Romberg Tiburon Center** | San Francisco, California, USA | CA |
| **Satellite Operations Command and Control (SOCC)** | Suitland, Maryland, USA | MD |
| **Science Applications International Corp.** | Bellevue, Washington, USA | WA |
| **Science Applications International Corp.** | Monterey, California, USA | CA |
| **Scripps Institute of Oceanography, Arctic and Antarctic Research Center** | La Jolla, California, USA | CA |
| **Scripps Institute of Oceanography, Center for Clouds, Chemistry and Climate** | La Jolla, California, USA | CA |
| **Scripps Institute of Oceanography, Center for Coastal Studies** | La Jolla, California, USA | CA |
| **SEASPACE CORPORATION** | Poway, CA USA | CA |
| **State University of New York – Brookhaven** | Brookhaven, New York, USA | NY |
| **State University of New York – Buffalo** | Buffalo, New York, USA | NY |

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| | | |
|---|---|---|
| **Texas Natural Resource Conservation Commission** | Austin, Texas, USA | TX |
| **U.S. Air Force-Phillips Laboratory** | Hanscom AFB, Massachusetts, USA | MA |
| **U.S. Army Research Institute of Environmental Medicine Center** | Natick, Massachusetts, USA | MA |
| **U.S. Army Research Laboratory, White Sands Missile Range** | New Mexico, US | NM |
| **U.S. Forest Service** | Ogden, Utah, USA | UT |
| **U.S. Marine Corp. / NCCOSC** | San Diego, California, USA | CA |
| **U.S. National Biological Service** | Anchorage, Alaska, USA | AK |
| **U.S. Naval Oceanographic Office** | Stennis Space Center, MS | MS |
| **U.S. Naval Research Laboratory (NRL)** | Monterey, California, USA | CA |
| **U.S. Naval Research Laboratory (NRL)** | Stennis Space Center, MS, USA | MS |
| **United States Department of Agriculture, US Forest Service** | Salt Lake City, UT, USA | UT |
| **United States Naval Oceanographic Office** | Norfolk, Virginia, USA | VA |
| **United States Naval Oceanographic Office** | San Diego, California, USA | CA |
| **United States Naval Oceanographic Office (Fleet Numerical Oceanographic Center)** | Pearl Harbor, Hawaii, USA | HI |
| **University Corporation for Atmospheric Research (UCAR)** | Boulder, Colorado, USA | CO |
| **University of Alaska, Geophysical Institute** | Fairbanks, Alaska, USA | AK |
| **University of California, Santa Barbara, Institute for Computational Earth Systems Science** | Santa Barbara, California, US | CA |
| **University of Delaware** | Newark, DE, USA | DE |
| **University of Hawaii, Satellite Oceanography Laboratory** | Honolulu, Hawaii, USA | HI |
| **University of Maine** | Orono, Maine, USA | ME |
| **University of Massachusetts – Dartmouth** | Dartmouth, Massachusetts, USA | MA |
| **University of Miami** | Miami, Florida, USA | FL |
| **University of Nebraska** | Lincoln, Nebraska, USA | NE |

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| | | |
|---|---|---|
| **University of New Mexico** | Albuquerque, New Mexico, USA | NM |
| **University of North Dakota** | Grand Forks, North Dakota, USA | ND |
| **University of Notre Dame** | Notre Dame, Indiana, USA | IN |
| **University of South Florida, Department of Marine Science** | St. Petersburg, Florida, USA | FL |
| **University of Texas, Center for Space Research** | Austin, Texas, USA | TX |
| **University of Washington** | Polar Science Center , WA USA | WA |
| **University of Wisconsin, Space Science & Engineering Center (SSEC)** | Madison, WI USA | WI |
| **WSI Corporation** | Billerica, Massachusetts, USA | MA |

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APPENDIX B: SeaSpace Land-Based Ground Station Customers (Alphabetical by State)

| Cutomer Name | Location | State |
|---|---|---|
| **Fairweather Environmental Services** | Anchorage, Alaska, USA | AK |
| **U.S. National Biological Service** | Anchorage, Alaska, USA | AK |
| **University of Alaska, Geophysical Institute** | Fairbanks, Alaska, USA | AK |
| **Salt River Project** | Phoenix, Arizona, USA | AZ |
| **Aerojet Corporation** | Azusa, California, USA | CA |
| **Aerospace Corporation** | El Segundo, California, USA | CA |
| **Boeing Aerospace** | Seal Beach, California, USA | CA |
| **Inter-National Research Institute** | San Diego, California, USA | CA |
| **Jet Propulsion Laboratory** | Pasadena, California, USA | CA |
| **Jet Propulsion Laboratory, Ames Research Center** | Wrightwood, California, USA | CA |
| **NASA/Ames Research Center** | Moffett Field, California, USA | CA |
| **Northrop Grumman Electronics Systems** | Azusa, CA, USA | CA |
| **San Francisco State University, Romberg Tiburon Center** | San Francisco, California, USA | CA |
| **SEASPACE CORPORATION** | Poway, CA USA | CA |
| **Science Applications International Corp.** | Monterey, California, USA | CA |
| **Scripps Institute of Oceanography, Arctic and Antarctic Research Center** | La Jolla, California, USA | CA |
| **Scripps Institute of Oceanography, Center for Clouds, Chemistry and Climate** | La Jolla, California, USA | CA |
| **Scripps Institute of Oceanography, Center for Coastal Studies** | La Jolla, California, USA | CA |
| **U.S. Marine Corp. / NCCOSC** | San Diego, California, USA | CA |
| **U.S. Naval Research Laboratory (NRL)** | Monterey, California, USA | CA |
| **United States Naval Oceanographic Office** | San Diego, California, USA | CA |
| **University of California, Santa Barbara, Institute for Computational Earth Systems Science** | Santa Barbara, California, US | CA |
| **Colorado State University** | Ft. Collins, Colorado, USA | CO |
| **National Center for Atmospheric Research (NCAR)** | Boulder, Colorado, USA | CO |
| **National Oceanic and Atmospheric Administration (NOAA), Forecast Systems Laboratory** | Boulder, Colorado, USA | CO |
| **University Corporation for Atmospheric** | Boulder, Colorado, USA | CO |

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| | | |
|---|---|---|
| **Research (UCAR)** | | |
| **National Naval Ice Center** | Washington, D.C., USA | DC |
| **University of Delaware** | Newark, DE, USA | DE |
| **Florida Division of Emergency Management** | Tallahassee, Florida, USA | FL |
| **National Oceanic and Atmospheric Administration (NOAA)** | CoastWatch Caribbean Node, FL USA | FL |
| **University of South Florida, Department of Marine Science** | St. Petersburg, Florida, USA | FL |
| **University of Miami** | Miami, Florida, USA | FL |
| **Georgia Institute of Technology, Hydrologic Research Center** | Atlanta, Georgia, USA | GA |
| **United States Naval Oceanographic Office (Fleet Numerical Oceanographic Center)** | Pearl Harbor, Hawaii, USA | HI |
| **Joint Typhoon Warning Center (USN and USAF)** | Pearl Harbor, Hawaii, USA | HI |
| **University of Hawaii, Satellite Oceanography Laboratory** | Honolulu, Hawaii, USA | HI |
| **Purdue University** | Lafayette, IN, USA | IN |
| **University of Notre Dame** | Notre Dame, Indiana, USA | IN |
| **Louisiana State University, Earth Scan Lab** | Baton Rouge, Louisiana, USA | LA |
| **Atmospheric & Environmental Research, Inc.** | Cambridge, Massachusetts, USA | MA |
| **U.S. Air Force-Phillips Laboratory** | Hanscom AFB, Massachusetts, USA | MA |
| **U.S. Army Research Institute of Environmental Medicine Center** | Natick, Massachusetts, USA | MA |
| **University of Massachusetts – Dartmouth** | Dartmouth, Massachusetts, USA | MA |
| **WSI Corporation** | Billerica, Massachusetts, USA | MA |
| **Environmental Technologies Group, Inc.** | Baltimore, Maryland, USA | MD |
| **Johns-Hopkins University, Applied Physics Laboratory** | Laurel, Maryland, USA | MD |
| **NASA/Goddard Space Flight Center** | Greenbelt, Maryland, USA | MD |
| **Satellite Operations Command and Control (SOCC)** | Suitland, Maryland, USA | MD |
| **University of Maine** | Orono, Maine, USA | ME |
| **Michigan Technical University** | Houghton, Michigan, USA | MI |
| **Naval Research Lab, Stennis Space Center** | Bay Saint Louis, MS USA | MS |
| **U.S. Naval Oceanographic Office** | Stennis Space Center, MS | MS |
| **U.S. Naval Research Laboratory (NRL)** | Stennis Space Center, MS, USA | MS |

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| | | |
|---|---|---|
| **Elizabeth City State University (ECSU)** | Elizabeth City, North Carolina, USA | NC |
| **University of North Dakota** | Grand Forks, North Dakota, USA | ND |
| **Northrop Grumman** | Bellevue, NE, USA | NE |
| **University of Nebraska** | Lincoln, Nebraska, USA | NE |
| **Rutgers University** | New Brunswick, NJ, USA | NJ |
| **U.S. Army Research Laboratory, White Sands Missile Range** | New Mexico, US | NM |
| **University of New Mexico** | Albuquerque, New Mexico, USA | NM |
| **Brookhaven National Laboratory** | Upton, New York, USA | NY |
| **City College of New York** | New York, NY, USA | NY |
| **State University of New York – Brookhaven** | Brookhaven, New York, USA | NY |
| **State University of New York – Buffalo** | Buffalo, New York, USA | NY |
| **Radian International** | Dayton, Ohio, USA | OH |
| **Oregon State University, College of Oceanic & Atmospheric Sciences** | Corvallis, Oregon, USA | OR |
| **Federal Express Corporation** | Memphis, Tennessee, USA | TN |
| **American Airlines Flight Academy** | DFW Airport, Texas, USA | TX |
| **Texas Natural Resource Conservation Commission** | Austin, Texas, USA | TX |
| **University of Texas, Center for Space Research** | Austin, Texas, USA | TX |
| **U.S. Forest Service** | Ogden, Utah, USA | UT |
| **United States Department of Agriculture, US Forest Service** | Salt Lake City, UT, USA | UT |
| **NASA/Langley Research Center** | Hampton, Virginia, USA | VA |
| **United States Naval Oceanographic Office** | Norfolk, Virginia, USA | VA |
| **Applied Physics Laboratory** | Seattle Washington, USA | WA |
| **Battelle, Pacific Northwest Laboratories** | Richland, Washington, USA | WA |
| **Science Applications International Corp.** | Bellevue, Washington, USA | WA |
| **University of Washington** | Polar Science Center , WA USA | WA |
| **University of Wisconsin, Space Science & Engineering Center (SSEC)** | Madison, WI USA | WI |

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**US Coast Guard ships including**
**USCGC Healy**
**USCGC Polar Sea**
**USCGC Polar Star**

**28 US Navy capital ships including:**
**USS John F. Kennedy**
**USS Bataan**
**USS Tarawa**
**USS Coronado**
**USS Harry S. Truman**
**USS Beleau**
**USS Essex**
**USS Blue Ridge**
**USS Washington**
**USS Wasp**
**USS Saipan**
**USS Lincoln**
**USS Nimitz**
**USS Enterprise**
**USS Nassau**
**USS Constellation**
**USS Boxer**
**USS Mt. Whitney**
**USS Kearsarge**
**USS Lasalle**
**USS Peleliu**
**USS Carl Vinson**
**USS Inchon**
**USS Kitty Hawk**
**USS Teddy Roosevelt**
**USS Iwo Jima**
**USS Bon Homme**
**USS Stennis**
**USS Reagan**

**Research and Private Vessels (only a few named below):**

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**R/V Oceanus, Woods Hole Oceanographic Institute**
**R/V Ron Brown, NOAA**
**R/V Nathaniel B. Palmer, NSF**
**R/V/ Knorr, Woods Hole Oceanographic Institute**

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# APPENDIX D: Overpass Calculation

| | |
|---|---|
| NOAA-Series: | 16 overpasses a day |
| GOES-11: | Continuous transmission |
| GOES-12: | Continuous transmission |
| GOES-13: | Continuous transmission |
| MetOp: | 6 overpasses a day |
| FY-1D: | 6 overpasses a day |